

allogeneic transfusion (\$1512), autologous (\$1899) and allogeneic transfusion (\$1906) with differences persisting in sensitivity analyses. Cell salvage resulted in net savings at a threshold of $\leq \$556$ /patient. **CONCLUSIONS:** Use of CS, particularly with autologous blood pre-donation appears cost-saving and cost-effective in pediatric surgery and should be encouraged.

PSU14

TOTAL BURDEN OF SURGICAL SITE INFECTIONS IN INITIAL ADMISSIONS AND READMISSIONS AMONG PATIENTS UNDERGOING TOTAL KNEE ARTHROPLASTY

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OBJECTIVES: Surgical site infections (SSIs) associated with total knee arthroplasty (TKA) have a significant negative impact on outcomes and hospital reimbursement. Our study uniquely looks at the impact of patients having SSI in their initial admission with downstream outcomes of readmission to assess the complete consequences of TKA related SSI, beyond a single episode of care. **METHODS:** Thomson Medstat MarketScan® Database was used to identify patients having a TKA (ICD9-CM procedure code 81.54) between January 2007 and December 2009. Patients experiencing infections were defined by ICD-9-CM codes 998.5x, 998.66 and 998.67 as their secondary diagnosis in their index admission and as their primary or secondary diagnoses during their 90-day readmissions. Total SSI burden was assessed by evaluating differences in length of stay (LOS) and costs relative to those with no SSI in the 3 groups: 1) during the initial admission in patients developing SSI; 2) during the 90-day post surgery for patients who had developed SSI in their initial admission; and 3) in patients experiencing SSI in their postoperative period. Generalized linear models adjusting for age, gender, region and p/a diabetes were used to compute mean differences and 95% confidence intervals. **RESULTS:** Patients in group 1 developing SSI as a complication of TKA incur an additional LOS of 2.4 days (95%CI:2.2-2.6 days) and an extra \$6360 costs (95%CI:\$4610-\$8100). Group 2 patients are at risk of 0.75 more downstream readmissions, and incur an average of 0.51 days additional LOS (95%CI:0.17-0.85) and \$1,160 additional payments (95%CI: \$130-\$2180). Group 3 patients are at risk of 1.3 additional readmissions, and incur an average additional LOS of 8.2 days (95%CI:8.0-8.4) and \$21,830 (95%CI:\$21,160-\$22,510) in additional payments. **CONCLUSIONS:** SSI associated with TKA increases current and downstream burden by a factor of 1.3-8.0 times in terms of readmission rates and additional LOS and provider payments.

PSU15

IMPACT OF COMPLICATIONS IN SOLID ORGAN TRANSPLANTS ON HOSPITAL CHARGES AND LENGTH OF STAY

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OBJECTIVES: Solid organ transplants (SOT) are expensive, and much of the cost is incurred in the first 3 months of care to cover pre-transplant, procurement and procedural costs, which can reach $> \$200,000$ per transplant, and higher with complications. Delayed graft function (DGF) is a complication affecting 20-40% of kidney transplants and is believed to result from ischemic reperfusion injury (IRI). The objective of this analysis is to quantify the additional charges and length of stay (LOS) associated with complications such as DGF. **METHODS:** Using 2008 Health Care Utilization Project (HCUP) data, individuals with a recorded transplant procedure (ICD-9 CM: 07.94 (thymus); 33.50-33.52 (lung); 336 (heart-lung); 41.94 (spleen); 46.97 (intestine); 50.51 and 50.59 (liver); 52.80-52.83 (pancreas); 65.92 (ovary) were identified. The mean hospital charges for individuals with and without a recorded complication diagnosis (ICD-9 CM 996.80-996.89 and additionally for kidney patients a recorded dialysis procedure 39.95) were compared using student's t-test. **RESULTS:** The number of SOTs (and complications) for each organ type were: 4119 (21%) kidney, 1677 (17%) liver, 485 (28%) heart, and 264 (35%) lung. Heart-lung, intestine, pancreas and spleen were excluded from the analysis with < 100 transplants each. Kidney and liver transplant patients with complications had significantly higher mean hospital charges and LOS than those without the complications: kidney (\$209,503 vs. \$160,997, $p < 0.001$) and (7.0 days vs. 11.1 days, $p < 0.001$), and liver (\$460,351 vs. \$340,296, $p < 0.001$) and (21.0 days vs. 31.6 days). Heart and Lung transplant patients had higher charges than those without the complication diagnosis. The difference was not statistically significant. **CONCLUSIONS:** Our results demonstrate that having to treat complications of transplants adds significantly to the cost of hospital care and LOS. There is a need for a novel agent that may reduce IRI. Proactive management of patients with risk of IRI may confer substantial savings to hospitals.

PSU16

RETROSPECTIVE ANALYSIS OF COST OUTCOMES FOR PATIENTS RECEIVING INFUSE BONE GRAFT (RHBMP-2) OR ACTIFUSE BONE GRAFT SUBSTITUTE (SI-CAP) DURING POSTEROLATERAL SPINAL FUSION

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OBJECTIVES: Evaluate the cost of care for patients undergoing posterolateral spinal fusion (PLF) between on-label Si-CaP use and off-label rhBMP-2 use. It is hypothesized that Si-CaP patients will have lower Total patient costs (cost of entire inpatient hospitalization), lower supply costs, and lower Operating Room costs. **METHODS:** Patients over age 18 having a PLF procedure (ICD9 codes 81.62, 81.63, or 81.64) and receiving Si-CaP or rhBMP-2 on day of procedure between January, 2006 and December 31, 2010 were selected. Comorbidities were identified using a modified Charlson method. Patients with 9 or more levels fused were excluded. Univariate group comparisons were made using chi-square and student t-tests. Multivariate linear models were developed using both normal and log transformation. Discharges with costs less than \$1,000 or greater than \$500,000 were excluded in

the normal multivariate models but were included in the log transformed models. **RESULTS:** A total of 60,260 patients were initially identified. After applying exclusion criteria 59,229 patients were available for analysis (98.3%). Univariate comparisons of Total Cost as well as OR and Supply costs were significantly lower for the Si-CaP cohort ($p < 0.05$). Adjusting for patient and hospital covariates also showed statistically significant lower estimated mean costs for Si-CaP for all outcomes ($p < 0.001$). Differences in estimated means for Total Costs were lower for Si-CaP \$8931 and \$7582 using normal and log-transformed values respectively. Estimated means for Supply Costs showed similar results of \$7255 and \$5274 for normal and log-transformed values respectively. Operating Room Costs were also similar, \$961 and \$809. **CONCLUSIONS:** After adjusting for patient and hospital covariates Si-CaP patients had significantly lower Total Patient Costs. While Supply Costs showed similar results they do not fully explain the reduction in Total Cost suggesting that there are other cost advantages besides product acquisition cost. Further research should consider cost of complications and readmission.

PSU17

RETROSPECTIVE DATA ANALYSIS ASSESSING HOSPITAL COSTS AND RESOURCE UTILIZATION ASSOCIATED WITH PERIOPERATIVE BLOOD LOSS IN PROSTATE SURGERIES

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OBJECTIVES: The objective of this study was to compare costs and resource utilization in prostate surgery patients with perioperative blood loss (PBL) to those who did not experience perioperative blood loss (NPBL). **METHODS:** Males with inpatient prostate surgery discharges (ICD-9-CM: 60.0, 60.12, 60.14, 60.15, 60.3, 60.5, 60.6X, 60.72, 60.73, 60.79, 60.8X, 60.93, 60.94) were identified from the Premier Perspective® Database (CY 2009 - Q2 of CY 2010). Discharges were categorized into the PBL group if they had received at least one blood transfusion (ICD-9-CM: 99.02-99.07; CPT: 36430, 35455) during the hospital stay, otherwise were included in the NPBL group. Blood transfusion was assumed to be an indicator for PBL. Groups were matched (1:1) on age, race and APR-DRG severity using propensity scores. Adjusted estimates for costs (total and departmental), days of stay in hospital (LOS), ICU, and operating room (OR) time in minutes were compared between the PBL and NPBL groups using generalized linear model (GLM) with gamma distribution and log link. **RESULTS:** A total of 18,681 prostate surgery discharges were identified. Of those, 1176 (6.3%) required at least one blood transfusion perioperatively. After matching, 1168 discharges were retained in each group for the final analysis. Adjusted mean total costs were significantly higher for the PBL group compared to NPBL group (\$16,757 vs. \$12,712, $p < 0.0001$). Mean adjusted costs associated with room & board, surgery and pharmacy between PBL and NPBL group and were also significantly higher for the PBL group (all $p < 0.05$). Compared to the NPBL group, the PBL group had higher mean LOS (5.8 days vs. 3.6 days), and longer OR time (232 minutes vs. 211 minutes) (both $p < 0.05$). **CONCLUSIONS:** Perioperative blood loss for prostate surgery patients adds significant burden to hospital costs and resources. Adopting strategies aimed at minimizing PBL during prostate surgery process may conserve valuable medical resources.

PSU18

RETROSPECTIVE DATA ANALYSIS ASSESSING HOSPITAL COSTS AND RESOURCE UTILIZATION ASSOCIATED WITH PERIOPERATIVE BLOOD LOSS IN RENAL SURGERIES

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OBJECTIVES: The objective of this study was to compare costs and resource utilization in renal surgery patients with perioperative blood loss (PBL) to those who did not experience perioperative blood loss (NPBL). **METHODS:** Inpatient discharges for renal surgery (ICD-9-CM: 55.0X, 55.1X, 55.24, 55.3X-55.8X) were identified from the Premier Perspective® Database (CY 2009-Q2 of CY 2010). Discharges were categorized as PBL group if they had received at least one blood transfusion (ICD-9-CM: 99.02-99.07; CPT: 36430, 35455) during the hospital stay, otherwise were included in the NPBL group. Blood transfusion was assumed to be an indicator for PBL. Groups were matched (1:1) on age, gender, race, CCI score, APR-DRG severity and elective admission type using propensity score. Adjusted estimates for costs (total and departmental), days of stay in hospital (LOS), ICU, and operating room (OR) time in minutes were compared between PBL and NPBL groups using generalized linear model (GLM) with gamma distribution and log link. **RESULTS:** A total of 27,573 renal surgery discharges were identified. 4,885 (17.7%) of all the selected patients required at least one blood transfusion perioperatively. After matching, 4,699 discharges were retained in each group for the final analysis. Adjusted mean total cost were significantly higher for the PBL group compared to NPBL group (\$48,583 vs. \$35,298, $p < 0.0001$). Mean adjusted costs associated with room & board, central supply, surgery, pharmacy and laboratory and pathology between PBL and NPBL group and were also significantly higher for PBL group (all $p < 0.05$). Compared to NPBL group, PBL group had higher mean LOS (10.5 days vs. 7.9 days) and ICU days (4.5 days vs. 3.6 days) and had longer OR time (227 minutes vs. 194 minutes) (all $p < 0.0001$). **CONCLUSIONS:** Perioperative blood loss for renal surgery patients adds significant burden to hospital costs and resources. Adopting strategies aimed at minimizing perioperative blood loss during renal surgeries may be helpful.

PSU19

COMPARISON OF COST AND OPERATING ROOM TIME OF LOW ANTERIOR RESECTION (LAR) VERSUS ABDOMINOPERINEAL RESECTION (APR) PROCEDURES IN THE UNITED STATES

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